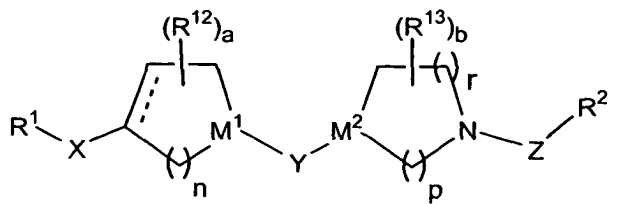


WHAT IS CLAIMED IS:

1. A compound represented by the structural formula



- 5 or a pharmaceutically acceptable salt or solvate thereof, wherein:

a is 0 to 3;

b is 0 to 3;

n is 1, 2 or 3;

p is 1, 2 or 3;

10 r is 0, 1, 2, or 3;

X is a bond or C₁-C₆ alkylene;

M¹ is CH or N;

M² is C(R³) or N;

with the provisos that when M² is N, p is not 1; and that when r is 0, M² is

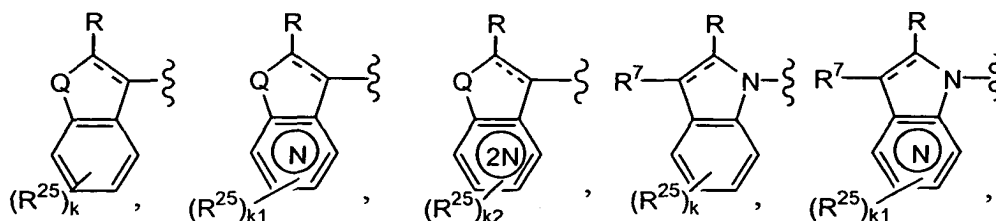
15 C(R³); and that the sum of p and r is 1 to 4;

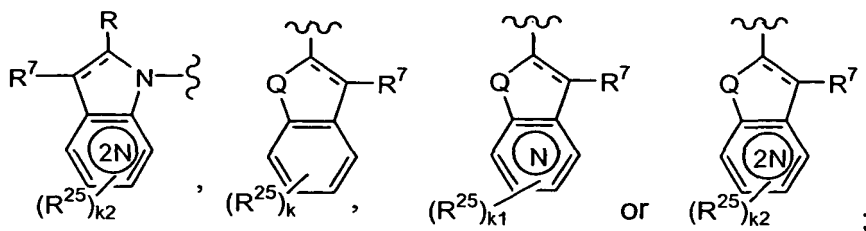
Y is -C(=O)-, -C(=S)-, -(CH₂)_q-, -NR⁴C(=O)-, -C(=O)NR⁴-, -C(=O)CH₂-, -SO₁₋₂-,
-C(=N-CN)-NH- or -NH-C(=N-CN)-; with the provisos that when M¹ is N, Y is not
-NR⁴C(=O)- or -NH-C(=N-CN)-; and when M² is N, Y is not -C(=O)NR⁴- or
-C(=N-CN)-NH-;

20 q is 1 to 5, provided that when M¹ and M² are both N, q is not 1;

Z is a bond, C₁-C₆ alkylene, C₂-C₆ alkenylene, -C(=O)-, -CH(CN)- or
-CH₂C(=O)NR⁴-;

R¹ is





Q is -N(R⁸)-, -S- or -O-;

k is 0, 1, 2, 3 or 4;

k₁ is 0, 1, 2 or 3;

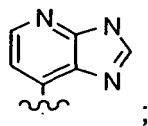
5 k₂ is 0, 1 or 2;

the dotted line represents an optional double bond;

R and R⁷ are independently selected from the group consisting of H, C₁-C₆ alkyl, halo(C₁-C₆)alkyl-, C₁-C₆ alkoxy, (C₁-C₆)alkoxy-(C₁-C₆)alkyl-, (C₁-C₆)-alkoxy-
 10 (C₁-C₆)alkoxy, (C₁-C₆)alkoxy-(C₁-C₆)alkyl-SO₀₋₂, R³²-aryl(C₁-C₆)alkoxy-, R³²-aryl-
 (C₁-C₆)alkyl-, R³²-aryl, R³²-aryloxy, R³²-heteroaryl, (C₃-C₆)cycloalkyl, (C₃-C₆)cycloalkyl-
 (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl-(C₁-C₆)alkoxy, (C₃-C₆)cycloalkyl-oxy-, R³⁷-heterocyclo-
 alkyl, N(R³⁰)(R³¹)-(C₁-C₆)alkyl-, -N(R³⁰)(R³¹), -NH-(C₁-C₆)alkyl-O-(C₁-C₆)alkyl,
 -NHC(O)NH(R²⁹); R²²-S(O)₀₋₂-, halo(C₁-C₆)alkyl-S(O)₀₋₂-, N(R³⁰)(R³¹)-(C₁-C₆)alkyl-
 15 S(O)₀₋₂-, benzoyl, (C₁-C₆)alkoxy-carbonyl, R³⁷-heterocycloalkyl-N(R²⁹)-C(O)-, (C₁-
 C₆)alkyl-N(R²⁹)-C(O)-, (C₁-C₆)alkyl-N(C₁-C₆ alkoxy)-C(O)-, -C(=NOR³⁶)R³⁶ and
 -NHC(O)R²⁹; and when the optional double bond is not present, R⁷ can be OH;

R⁸ is H, C₁-C₆ alkyl, halo(C₁-C₆)alkyl-, (C₁-C₆)alkoxy-(C₂-C₆)alkyl-, R³²-aryl(C₁-
 C₆)alkyl-, R³²-aryl, R³²-heteroaryl, R³²-heteroaryl(C₁-C₆)alkyl-, (C₃-C₆)cycloalkyl, (C₃-
 C₆)cycloalkyl-(C₁-C₆)alkyl, R³⁷-heterocycloalkyl, R³⁷-heterocycloalkyl(C₁-C₆)alkyl,
 20 N(R³⁰)(R³¹)-(C₂-C₆)alkyl-, R²²-S(O)₂-, halo(C₁-C₆)alkyl-S(O)₂-, R²²-S(O)₀₋₁-(C₂-C₆)alkyl-,
 halo(C₁-C₆)alkyl-S(O)₀₋₁-(C₂-C₆)alkyl-, (C₁-C₆)alkyl-N(R²⁹)-SO₂-, or R³²-heteroaryl-SO₂;

R² is a six-membered heteroaryl ring having 1 or 2 heteroatoms independently
 selected from N or N-O, with the remaining ring atoms being carbon; a five-
 membered heteroaryl ring having 1, 2, 3 or 4 heteroatoms independently selected
 25 from N, O or S, with the remaining ring atoms being carbon; R³²-quinolyl; R³²-aryl;



or heterocycloalkyl; wherein said six-membered heteroaryl ring or said five-membered heteroaryl ring is optionally substituted by R⁶;

R^3 is H, halogen, C_1 - C_6 alkyl, -OH or $(C_1$ - C_6)alkoxy;

R^4 is independently selected from the group consisting of hydrogen, C_1 - C_6 alkyl, C_3 - C_6 cycloalkyl, $(C_3$ - C_6)cycloalkyl(C_1 - C_6)alkyl, R^{33} -aryl, R^{33} -aryl(C_1 - C_6)alkyl, and R^{32} -heteroaryl;

5 R^5 is hydrogen, C_1 - C_6 alkyl, $-C(O)R^{20}$, $-C(O)_2R^{20}$, $-C(O)N(R^{20})_2$, R^{33} -aryl(C_1 - C_6)alkyl or $(C_1$ - C_6)alkyl- SO_2 -;

R^6 is 1 to 3 substituents independently selected from the group consisting of -OH, halogen, C_1 - C_6 alkyl, C_1 - C_6 alkoxy, $-CF_3$, $-NR^4R^5$, $-(C_1$ - C_6)alkyl- NR^4R^5 , phenyl, R^{33} -phenyl, NO_2 , $-CO_2R^4$, $-CON(R^4)_2$, $-NHC(O)N(R^4)_2$, R^{32} -heteroaryl- SO_2 -NH-,
10 R^{32} -aryl- $(C_1$ - C_6)alkyl-NH-, R^{32} -heteroaryl- $(C_1$ - C_6)alkyl-NH-, R^{32} -heteroaryl-NH- $C(O)$ -NH-, R^{37} -heterocycloalkyl- $N(R^{29})$ - $C(O)$ - and R^{37} -heterocycloalkyl- $N(R^{29})$ - $C(O)$ -NH-;

R^{12} is independently selected from the group consisting of C_1 - C_6 alkyl, hydroxyl, C_1 - C_6 alkoxy, or fluoro, provided that when R^{12} is hydroxy or fluoro, then R^{12}
15 is not bound to a carbon adjacent to a nitrogen; or R^{12} forms a C_1 to C_2 alkyl bridge from one ring carbon to another ring carbon;

R^{13} is independently selected from the group consisting of C_1 - C_6 alkyl, hydroxyl, C_1 - C_6 alkoxy, or fluoro, provided that when R^{13} is hydroxy or fluoro then R^{13}
20 is not bound to a carbon adjacent to a nitrogen; or forms a C_1 to C_2 alkyl bridge from one ring carbon to another ring carbon; or R^{13} is =O;

R^{20} is independently selected from the group consisting of hydrogen, C_1 - C_6 alkyl, or aryl, wherein said aryl group is optionally substituted with from 1 to 3 groups independently selected from halogen, $-CF_3$, $-OCF_3$, hydroxyl, or methoxy; or when two R^{20} groups are present, said two R^{20} groups taken together with the nitrogen to which
25 they are bound can form a five or six membered heterocyclic ring;

R^{22} is C_1 - C_6 alkyl, R^{34} -aryl or heterocycloalkyl;

R^{24} is H, C_1 - C_6 alkyl, $-SO_2R^{22}$ or R^{34} -aryl;

R^{25} is independently selected from the group consisting of C_1 - C_6 alkyl, halogen, CN, $-CF_3$, -OH, C_1 - C_6 alkoxy, $(C_1$ - C_6)alkyl- $C(O)$ -, aryl- $C(O)$ -, $N(R^4)(R^5)$ - $C(O)$ -,
30 $N(R^4)(R^5)$ - $S(O)_{1-2}$ -, halo- $(C_1$ - C_6)alkyl- or halo- $(C_1$ - C_6)alkoxy- $(C_1$ - C_6)alkyl-;

R^{29} is H, C_1 - C_6 alkyl, R^{35} -aryl or R^{35} -aryl(C_1 - C_6)alkyl-;

R^{30} is H, C_1 - C_6 alkyl-, R^{35} -aryl or R^{35} -aryl(C_1 - C_6)alkyl-;

R^{31} is H, C_1 - C_6 alkyl-, R^{35} -aryl, R^{35} -aryl(C_1 - C_6)alkyl-, $(C_1$ - C_6)alkyl- $C(O)$ -, R^{35} -aryl- $C(O)$ -, $N(R^4)(R^5)$ - $C(O)$ -, $(C_1$ - C_6)alkyl- $S(O)_2$ - or R^{35} -aryl- $S(O)_2$ -;

or R^{30} and R^{31} together are $-(CH_2)_{4-5}-$, $-(CH_2)_2-O-(CH_2)_2-$ or $-(CH_2)_2-N(R^{29})-(CH_2)_2-$ and form a ring with the nitrogen to which they are attached;

R^{32} is 1 to 3 substituents independently selected from the group consisting of H, -OH, halogen, C_1-C_6 alkyl, C_1-C_6 alkoxy, R^{35} -aryl-O-, $-SR^{22}$, $-CF_3$, $-OCF_3$, $-OCHF_2$,
5 $-NR^4R^5$, phenyl, R^{33} -phenyl, $-NO_2$, $-CO_2R^4$, $-CON(R^4)_2$, $-S(O)_2R^{22}$, $-S(O)_2N(R^{20})_2$,
 $-N(R^{24})S(O)_2R^{22}$, $-CN$, hydroxy- (C_1-C_6) alkyl-, $-OCH_2CH_2OR^{22}$, and R^{35} -aryl (C_1-C_6) -alkyl-O-, wherein said aryl group is optionally substituted with 1 to 3 independently selected halogens;

R^{33} is 1 to 3 substituents independently selected from the group consisting of
10 C_1-C_6 alkyl, halogen, $-CN$, $-NO_2$, $-OCHF_2$ and $-O-(C_1-C_6)$ alkyl;

R^{34} is 1 to 3 substituents independently selected from the group consisting of H, halogen, $-CF_3$, $-OCF_3$, $-OH$ and $-OCH_3$.

R^{35} is 1 to 3 substituents independently selected from the group consisting of hydrogen, halo, C_1-C_6 alkyl, hydroxy, C_1-C_6 alkoxy, phenoxy, $-CF_3$, $-N(R^{36})_2$, $-COOR^{20}$
15 and $-NO_2$;

R^{36} is independently selected from the group consisting of H and C_1-C_6 alkyl;
and

R^{37} is independently selected from the group consisting of H, C_1-C_6 alkyl and (C_1-C_6) alkoxycarbonyl.
20

2. A compound of claim 1 wherein M^1 is N, a is 0, n is 2, and the optional double bond in the ring containing M^1 is not present.

3. A compound of claim 1 wherein M^2 is $C(R^3)$ wherein R^3 is hydrogen or
25 halogen, b is 0; r is 1 and p is 2.

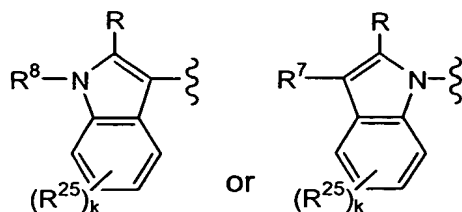
4. A compound of claim 1 wherein Y is $-C(O)-$.

5. A compound of claim 1 wherein Z is straight or branched C_1-C_3 alkyl.
30

6. A compound of claim 1 wherein R^2 is a six-membered heteroaryl ring, optionally substituted with one R^6 substituent.

7. A compound of claim 6 wherein R^2 is pyridyl, pyrimidyl or pyridazinyl, optionally
35 substituted with $-NH_2$.

8. A compound of claim 1 wherein R^1 is



9. A compound of claim 8 wherein R is H, alkyl, R³²-aryl, R³²-heteroaryl, (C₁-C₆)alkoxy-carbonyl or (C₁-C₆)alkyl-N(R²⁹)-C(O)-.

5

10. A compound of claim 9 wherein R is R³²-phenyl or R³²-pyridyl.

11. A compound of claim 8 wherein R⁷ is hydrogen.

10

12. A compound of claim 8 wherein R⁸ is H, R³²-aryl(C₁-C₆)alkyl-, R³²-heteroaryl(C₁-C₆)alkyl-, R³²-aryl, R³²-heteroaryl, (C₁-C₆)alkyl-N(R²⁹)-SO₂- or R³⁷-heterocycloalkyl(C₁-C₆)alkyl-.

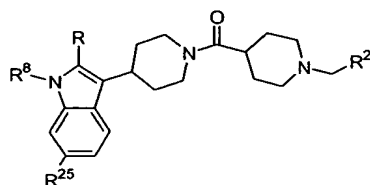
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13. A compound of claim 12 wherein R⁸ is H, R³²-benzyl, R³²-pyridylmethyl, piperidinoethyl or (C₁-C₆)alkyl-N(R²⁹)-SO₂- wherein R²⁹ is H or C₁-C₆ alkyl.

14. A compound of claim 8 wherein R²⁵ is H, halogen or -CF₃ and k is 0 or 1.

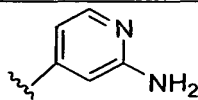
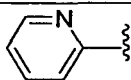
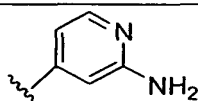
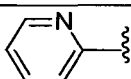
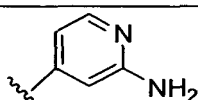
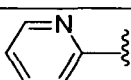
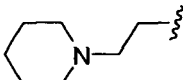
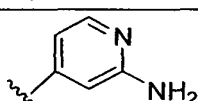
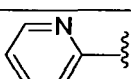
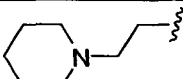
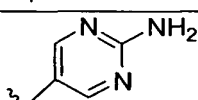
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15. A compound of claim 1 selected from the group consisting of compounds of the formula



wherein R, R⁸, R²⁵ and R² are as defined in the table:

R	R ⁸	R ²⁵	R ²
	(CH ₃) ₂ N-SO ₂ -	H	
		H	
CH ₃ CH ₂ -O-C(O)-	H	H	

$\text{CH}_3\text{-NH-C(O)-}$	H	H	
	H	H	
	H	F	
		H	
		H	

16. A pharmaceutical composition comprising an effective amount of a compound of claim 1 and a pharmaceutically effective carrier.

17. A method of treating: allergy, allergy-induced airway responses, congestion, hypotension, cardiovascular disease, diseases of the GI tract, hyper and hypo motility and acidic secretion of the gastro-intestinal tract, obesity, sleeping disorders, disturbances of the central nervous system, attention deficit hyperactivity disorder, hypo and hyperactivity of the central nervous system, Alzheimer's disease, schizophrenia, and migraine comprising administering to a patient in need of such treatment an effective amount of a compound of claim 1.

18. The method of claim 17 wherein allergy-induced airway responses are treated.

19. The method of claim 17 wherein allergy or nasal congestion is treated.

20. A pharmaceutical composition comprising an effective amount of a compound of claim 1, and an effective amount of H_1 receptor antagonist, and a pharmaceutically effective carrier.

21. A method of treating: allergy, allergy-induced airway responses, and congestion comprising administering to a patient in need of such treatment an

effective amount of a compound of claim 1 in combination with an effective amount of an H₁ receptor antagonist.

22. The method of claim 21 wherein said H₁ receptor antagonist is selected from:
- 5 astemizole, azatadine, azelastine, acrivastine, brompheniramine, cetirizine, chlorpheniramine, clemastine, cyclizine, carebastine, cyproheptadine, carbinoxamine, descarboethoxyloratadine, diphenhydramine, doxylamine, dimethindene, ebastine, epinastine, efletirizine, fexofenadine, hydroxyzine, ketotifen, loratadine, levocabastine, meclizine, mizolastine, mequitazine, mianserin, noberastine,
- 10 norastemizole, picumast, pyrilamine, promethazine, terfenadine, tripelennamine, temelastine, trimeprazine or triprolidine.

23. The method of claim 22 wherein said H₁ receptor antagonist is selected from: loratadine, descarboethoxyloratadine, fexofenadine or cetirizine.

15

24. The method of claim 23 wherein said H₁ receptor antagonist is selected from: loratadine or descarboethoxyloratadine.